

PATENT

Atty. Dkt. No. APPM/007669.P1/PPC/ECP/CKIM

REMARKS

This is intended as a full and complete response to the Final Office Action dated March 7, 2006, having a shortened statutory period for response set to expire on June 7, 2006. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1-25 and 29-32 remain pending in the application and are shown above. Claims 1-25 and 29-32 are rejected and claim 3 is indicated to be allowable by the Examiner. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Reconsideration of the rejected claims is requested for reasons presented below.

Claim 3 is amended to recite the original claim in independent form including all of the limitations of the base claim and any intervening claims. Claims 29 and 31 are amended to clarify the invention. These amendments are not presented to distinguish a reference, thus, the claims as amended are entitled to a full range of equivalents if not previously amended to distinguish a reference.

CLAIM REJECTIONS**35 U.S.C. § 103(a) Claims 1-2, 4-6, 8-11, 13-17, 19-25 and 29-32**

Claims 1-2, 4-6, 8-11, 13-17, 19-25 and 29-32 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Dordi et al* (U.S. Patent No. 6,267,853) in view of *Sendai et al* (U.S. Patent No. 6,558,518). Applicant respectfully traverses the rejection.

Applicant asserts that *Sendai* does not teach the use of stacked chambers which each possess a substrate heating plate and substrate cooling plate adjacently positioned within. The electroplating apparatus of *Sendai* comprising vertically stacked heating furnaces does not provide the missing elements of this invention when combined with the annealing system of *Dordi*. Therefore, *Dordi*, or *Sendai*,

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alone or in combination, do not teach, show, or suggest an electrochemical plating system comprising a substrate loading station positioned in communication with a mainframe processing platform, at least one substrate plating cell positioned on the mainframe, at least one substrate bevel cleaning cell positioned on the mainframe, and a stacked substrate annealing station positioned in communication with at least one of the mainframe and the loading station, each chamber in the stacked substrate annealing station having a substrate heating plate and a substrate cooling plate adjacently positioned therein, as recited in claim 1, and claims dependent thereon. Withdrawal of the rejection is respectfully requested.

Dordi, or Sendai, alone or in combination, do not teach, show, or suggest a multi-chemistry plating system, comprising a plurality of plating cells positioned on a common platform a cleaning cell positioned on the platform, a stacked annealing station positioned in communication with at least one of the mainframe and the loading station, and a multi-chemistry fluid delivery system positioned in communication with the platform and in fluid communication with the plurality of plating cells, the fluid delivery system being configured to mix and distribute a plurality of fluid solutions to each of the plurality of plating cells, wherein each annealing chamber in the stacked substrate annealing station has a substrate heating plate and a substrate cooling plate adjacently positioned therein, as recited in claim 13, and claims dependent thereon. Withdrawal of the rejection is respectfully requested.

Dordi, or Sendai, alone or in combination, do not teach, show, or suggest a An electrochemical plating system, comprising an electrochemical plating cell positioned on a processing platform, the electrochemical plating cell comprising a cell body configured to contain a plating solution and having an overflow weir positioned thereon, an anode positioned in the cell body, an ionic membrane positioned across the cell body at a position above the anode and below the overflow weir, the ionic membrane separating an anolyte compartment below the membrane from a catholyte compartment above the membrane, and a porous diffusion member positioned in the cell body above the membrane and below the overflow weir, a substrate cleaning cell positioned on the processing platform, and a stacked substrate annealing station positioned in communication with the processing platform, each chamber in the

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stacked substrate annealing station having a substrate heating plate and a substrate cooling plate adjacently positioned therein, as recited in amended claim 29, and claims dependent thereon. Withdrawal of the rejection is respectfully requested.

35 U.S.C. § 103(a) Claims 7, 12 and 18

Claims 7, 12 and 18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Dordi* in view of *Sendai*, and further in view of *Woodruff et al* (U.S. Patent Publ. No. 2001/0032788). Applicant respectfully traverses the rejection.

As discussed above, *Dordi* and *Sendai*, alone or in combination, do not teach the methods of claims 1 and 13. Applicants assert that *Woodruff* does not provide the missing elements of claims 1 and 13, respectively. As claims 7, 12, and 18 include the limitations of claim 1 and 13, *Dordi*, *Sendai*, and *Woodruff*, alone or in combination, do not provide or suggest all of the limitations of claims 7, 12, and 18. Withdrawal of the rejection is respectfully requested.

In conclusion, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest the invention as claimed.

The secondary references made of record are noted. However, it is believed that the secondary references are no more pertinent to the Applicant's disclosure than the primary references cited in the Final Office Action. Therefore, Applicant believes that a detailed discussion of the secondary references is not necessary for a full and complete response to this Final Office Action.

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Having addressed all issues set out in the Final Office Action, Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



Keith M. Tackett
Registration No. 32,008
PATTERSON & SHERIDAN, L.L.P.
3040 Post Oak Blvd. Suite 1500
Houston, TX 77056
Telephone: (713) 623-4844
Facsimile: (713) 623-4846
Attorney for Applicant(s)